

CLAIMS

1. An ultrasonographic equipment comprising:
 - an ultrasonic transducer unit in which ultrasonic
 - 5 transducer elements for scanning ultrasonic beam are arranged in a state of an array;
 - a transducer unit oscillating motor for making the ultrasonic transducer unit perform oscillation scanning in the direction crossing the scanning direction of the
 - 10 ultrasonic beam;
 - an oscillation angle detection means for detecting an oscillation angle of the ultrasonic transducer unit;
 - an ultrasonic transmission means for exciting the ultrasonic transducer element to form the ultrasonic beam;
 - 15 an ultrasonic receiving means for forming ultrasonic beam from ultrasonic echo received by the ultrasonic transducer element and converting the ultrasonic beam to visible image data;
 - a three-dimensional image processing means for forming
 - 20 a three-dimensional image based on the oscillation angle detected by the oscillation angle detection means and image data outputted from the ultrasonic receiving means; and
 - an image display means for displaying the three-dimensional image.

2. An ultrasonographic equipment comprising:

an ultrasonic transducer unit in which ultrasonic transducer elements for scanning ultrasonic beam are arranged in a state of an array;

5 a transducer unit oscillating motor for making the ultrasonic transducer unit perform oscillation scanning in the direction crossing the scanning direction of the ultrasonic beam;

an oscillation angle detection means for detecting an
10 oscillation angle of the ultrasonic transducer unit;

an ultrasonic transmission means for exciting the ultrasonic transducer element to form the ultrasonic beam;

an ultrasonic receiving means for forming ultrasonic beam from ultrasonic echo received by the ultrasonic
15 transducer element and converting the ultrasonic beam to visible image data;

an oscillation angle information adding means for adding information of the oscillation angle detected by the oscillation angle detection means to image data outputted
20 from the ultrasonic receiving means;

a three-dimensional image processing means for forming a three-dimensional image based on image data and the added oscillation angle information outputted from the oscillation angle information adding means; and

25 an image display means for displaying the

three-dimensional image.

3. The ultrasonographic equipment according to claim 1 or claim 2, wherein the three-dimensional image processing means forms a three-dimensional image based on angle information obtained by smoothing the information of the oscillation angle detected by the oscillation angle detection means.
- 10 4. An ultrasonographic equipment comprising:
- an ultrasonic transducer unit which two-dimensionally scans a fault plane of a test body, and is driven to be oscillated in the direction orthogonal to a scanned face of the two-dimensional scanning;
- 15 a scanning conversion means for recording a receiving signal obtained by the two-dimensional scanning by the ultrasonic transducer unit in a frame memory to create two-dimensional image data, reading out the two-dimensional image data, and outputting the two-dimensional image data;
- 20 a delay means for delaying position information in the oscillation direction of the ultrasonic transducer unit by processing time of the scanning conversion means; and
- a three-dimensional image processing means for creating a three-dimensional image from the two-dimensional image data
- 25 of a plurality of frames sequentially outputted from the

scanning conversion means based on the position information in the oscillation direction delayed by the delay means.

5. An ultrasonographic equipment comprising:

5 an ultrasonic transducer unit which two-dimensionally scans a fault plane of a test body, and is driven to be oscillated in the direction orthogonal to a scanned face of the two-dimensional scanning;

a scanning conversion means for recording a receiving
10 signal obtained by the two-dimensional scanning by the ultrasonic transducer unit in a frame memory to create two-dimensional image data, writing position information in the oscillation direction of the ultrasonic transducer unit in the frame memory, reading out the two-dimensional image
15 data and the position information, and outputting the two-dimensional image data and the position information; and

a three-dimensional image processing means for creating a three-dimensional image from the two-dimensional image data of a plurality of frames and the position information in the
20 oscillation direction which are sequentially outputted from the scanning conversion means.